



A.D. 1811 N^o 3495.

S P E C I F I C A T I O N

OF

JOHN MIERS.

APPARATUS FOR THE EVAPORATION AND
DISTILLATION OF FLUIDS.

L O N D O N :

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**Apparatus for the Evaporation and Distillation
of Fluids.**

MIERS' SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JOHN MIERS, of the Precinct of the Savoy, in the County of Middlesex, Jeweller, send greeting.

WHEREAS His present most Excellent Majesty King George the Third
5 did, by his Royal Letters Patent under the Great Seal of the United Kingdom
of Great Britain and Ireland, bearing date at Westminster, the Thirtieth day
of October, in the fifty-second year of His reign, did give and grant unto me,
the said John Miers, my executors, administrators, and assigns, His especial
licence, full power, sole privilege and authority, that I, the said John Miers, my
10 executors, administrators, and assigns, during the term of years therein ex-
pressed, should and lawfully might make, use, exercise, and vend my Invention
of "**A NEW METHOD OF ACCELERATING THE EVAPORATION OF LIQUID OR FLUID BODIES,
DESTROYING THE NOXIOUS AND OFFENSIVE EFFLUVIA ARISING FROM SPENT SOAP, LYES, OR
OTHER LIQUID, FLUID, OR SOLID SUBSTANCES, AND GENERATING AN INCREASED DEGREE OF**
15 **HEAT WITHOUT ADDITIONAL FUEL,**" within that part of the United Kingdom of
Great Britain and Ireland called England, the Dominion of Wales, and Town
of Berwick upon Tweed, in such manner as to me, the said John Miers, my
executors, administrators, and assigns, should in our discretion seem meet, in
which said Letters Patent is contained a proviso, that if I, the said John
20 Miers, should not particularly describe and ascertain the nature of my said
Invention, and in what manner the same is to be performed, by an instrument
in writing under my hand and seal, and cause the same to be inrolled in His
Majesty's High Court of Chancery within two calendar months next and

Miers' Impts. in Accelerating the Evaporation of Liquid or Fluid Bodies, &c.

immediately after the date of the said Letters Patent, that then the said Letters Patent and all liberties and advantages whatsoever thereby granted should utterly cease, determine, and become void, as in and by the said recited Letters Patent, relation being thereunto had, may more fully and at large appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said John Miers, do hereby declare that the nature of my said Invention, and the manner in which the same is to be performed, are particularly described and ascertained in the following explanation thereof (that is to say) :—

That in the construction of vessels used for the evaporation of fluid bodies 10 and their appurtenances, it be provided that all or part of the air which feeds the fire shall first pass over the surface of the evaporating matter. This process consists, first, in the continual or occasional introduction of fresh air, heated or not, to take up the aqueous and other vapours as they are generated; and, secondly, in the rapid removal of the air (charged therewith) by the current 15 occasioned by the fire. This removal of the vapours as they form, promoting the disposition of the fluid to resolve it into steam, greatly accelerates the rate of evaporation, and consequently saves much time and expence; this may be effected by covering the top of the vessel in which the evaporation takes place, leaving open one part for the admission of hot or cold air, and at the opposite 20 end or other part or parts placing a flue or other conveyance or conveyances to conduct the air and vapours to the ashpit, or in any other way that they may pass thro' the fire, it being understood that the usual entrance to the ashpit is closed. By these means the strong current of air produced by the action of the fire is drawn over the surface of the evaporating bodies. Another 25 essential part of this Invention is to destroy the offensive and noxious effluvia which oftentimes arise in the evaporation of fluids, or in the distillation or calcination of solid bodies; any offensive or noxious effluvia arising in the evaporation of fluids are destroyed by the process just described, or by any other method that will cause the effluvia to pass through the fire. But in the 30 distillation or calcination of solid bodies the process already described is applicable only in some cases; in others the effluvia must be conducted through a heated or ignited tube or tubes, through which at the same time is also transmitted a stream of aqueous vapour, or into which heated or ignited tube or tubes are introduced or placed carbonaceous or other bodies that will 35 either abstract the hydrogenous part of the effluvia, or yield oxygen that will combine with the effluvia, according to the nature of the stench to be destroyed. By these means the effluvia are divested of their offensive qualities. Hence evaporation is accelerated, and offensive effluvia destroyed; and while

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hese objects are accomplishing, a saving of fuel is obtained, for the vapours arising from most fluids contain not only a combustible principle, but that also which supports combustion ; which vapours, when brought into contact with ignited carbonaceous matters, as occur in the processes above described, 5 undergo a decomposition and evolve a considerable degree of heat.

In witness whereof, I, the said John Miers, have hereunto set my hand and seal, this Nineteenth day of December, in the year of our Lord One thousand eight hundred and eleven.

JNO. MIERS. (L.S.)

10 **AND BE IT REMEMBERED**, that on the Nineteenth day of December, in the fifty-second year of the reign of His Majesty King George the Third, the said John Miers came before our said Lord the King in His Chancery, and acknowledged the instrument aforesaid, and all and everything therein contained and specified in form above written. And also the instrument 15 aforesaid was stamped, according to the tenor of the Statute made in the forty-eighth year of His said Majesty's reign.

STEPHEN.

Inrolled the Nineteenth day of December, One thousand eight hundred and eleven.

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